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10/007,186	11/05/2001	Yasushi Kohno	TKA0032	5700

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EXAMINER
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VALENTI, ANDREA M

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/007,186

Applicant(s)

KOHNO, YASUSHI

Examiner

Andrea M. Valenti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This office action is response to the Vacate and Remand from the Board of Patent Appeals and Interferences Paper No. 19. The Finality of the previous office action is withdrawn and a new grounds of rejection is presented in the following paragraphs.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant has claimed a method of preventing defective germination or rosette formation of a plant seed, which tends to suffer from defective germination or rosette formation. However, applicant has not established in the specification if all or only some seeds, and if so which, plants tend to suffer from defective germination or rosette formation. Clarification is requested.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 3 contain the term "in a dark place" the term dark is a relative term that can be defined as low light or no light and has not been clearly defined in applicant's specification.

Claim 1 contains the indefinite term "immediately" it is unclear the parameters of this term. The examiner views this term for the examination purposes as directly commencing the step of drying when the soaking step is done. Clarification regarding the time frame specified by this term is requested.

Claim 2 is rejected as being dependent from a rejected base claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Romanian Patent RO 113935B to Badiu et al.

Regarding Claim 1, Badiu et al teaches a method of preventing defective germination (Badiu English translation page 5 third paragraph) by leaving the plant seed to stand in highly watery condition at a low temperature in a dark place; and drying the plant seed immediately after leaving the plant seed to stand in the highly watery

condition at the low temperature in a dark place, before the seed becomes active (Badiu et al English abstract and English translation page 3, first paragraph; page 5 second full paragraph; page 6 line 6-7). Badiu teaches in the dark since dark is a relative term that can be defined as low light or no light and has not been clearly defined in applicant's specification. Therefore, the vat/dish taught by Badiu et al (Badiu English translation page 3 line 5 and page 6 line 4) that the seeds are soaked in is inherently a dark place because it will have a reduced amount of light then what the seeds would receive when exposed to natural sunlight outside of a dish.

The teachings of Smith (Journal of New Seeds, *Seed Soaking Damage in Some Grain Legumes*, Mike Smith, Nov. 2000) are cited merely to further illustrate the notoriously well-know effects that drying seed after soaking results in increased germination capacity (Smith abstract last sentence and article page 29 last sentence, page 30 line 13, page 34 second to last paragraph).

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Corbineau, F. & Come, D. "Effects of priming on the termination of *Valerianella olitoria* seeds in relation with temperature and oxygen," *Acta Horticulturae*, No. 267, pp 191-197 (1990).

Regarding Claim 1, Corbineau et al teaches a method of preventing defective germination by leaving the plant seed to stand in highly watery condition at a low temperature in a dark place; and drying the plant seed immediately after leaving the plant seed to stand in the highly watery condition at the low temperature in a dark place,

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before the seed becomes active (Corbineau page 192 section 2.3 and 2.2 and page 191 abstract and second paragraph of introduction).

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by An evaluation of the potential of low temperature pre-sowing treatments of tomato seeds as a means of improving germination performance, Ann. appl. Biol. (1987), 110, pg. 185-194 by Coolbear et al.

Regarding Claim 1, Coolbear teaches a method of preventing defective germination by leaving the plant seed to stand in highly watery condition at a low temperature in a dark place; and drying the plant seed immediately after leaving the plant seed to stand in the highly watery condition at the low temperature in a dark place, before the seed becomes active (Coolbear Summary, page 185, first sentence and page 186, methods, first paragraph).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romanian Patent RO 113935B to Badiu et al as in view of *Starting Plants from Seed*, Evans et al, NC State University, 1999, section on Light.

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Regarding Claim 2 and 3, Badiu et al is silent on the plant seed being dried in sufficient light to cause the seed to germinate or the plant seed is dried in a dark place. However, Evans et al teaches that light and darkness have an effect on germination depending on the plant species (Evans). Therefore, it would be obvious to one of ordinary skill in the art through a combination routine laboratory tests and experimentation and knowledge of the seed species, to determine light or dark requirements for a desired effect and to control germination.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbineau, F. & Come, D. "Effects of priming on the termination of Valerianella olitoria seeds in relation with temperature and oxygen," Acta Horticulturae, No. 267, pp 191-197 (1990) in view of *Starting Plants from Seed*, Evans et al, NC State University, 1999, section on Light.

Regarding Claims 2 and 3, Corbineau et al is silent on the plant seed being dried in sufficient light to cause the seed to germinate or the plant seed is dried in a dark place. However, Evans et al teaches that light and darkness have an effect on germination depending on the plant species Evans. Therefore, it would be obvious to one of ordinary skill in the art through a combination routine laboratory tests and experimentation and knowledge of the seed species, to determine light or dark requirements for a desired effect and to control germination.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,107,051 to Job et al in view of Journal of New Seeds, *Seed Soaking Damage in Some Grain Legumes*, Mike Smith, Nov. 2000.

Regarding Claim 1, Job et al teaches a method of preventing defective germination by leaving the plant seed to stand in highly watery condition at a low temperature in a dark place; and drying the plant seed (Job Col. 3 line 39-46) seed immediately after leaving the plant seed to stand in the highly watery condition at the low temperature in a dark place, before the seed becomes active. Job et al is silent on specifically identifying the benefits of the drying step. However, Smith teaches that drying seed after soaking results in increased germination capacity (Smith abstract last sentence and article page 29 last sentence, page 30 line 13, page 34 second to last paragraph). It would have been obvious to one of ordinary skill in the art to follow the method steps of Job et al to achieve the old and well-known result of improved germination as taught by Smith.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,107,051 as applied to claim 1 above, and further in view of *Starting Plants from Seed*, Evans et al, NC State University, 1999, section on Light.

Regarding Claim 2, Job et al as modified is silent on the plant seed being dried in sufficient light to cause the seed to germinate. However, Evans et al teaches that light and darkness have an effect on germination depending on the plant species. Therefore, it would be obvious to one of ordinary skill in the art through a combination of



routine laboratory tests and experimentation and knowledge of the seed species, to determine light or dark requirements for a known desired effect and to control germination.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over An evaluation of the potential of low temperature pre-sowing treatments of tomato seeds as a means of improving germination performance, Ann. appl. Biol. (1987), 110, pg. 185-194 by Coolbear et al in view of *Starting Plants from Seed*, Evans et al, NC State University, 1999, section on Light.

Regarding Claim 2 and 3, Coolbear et al is silent on the plant seed being dried in sufficient light to cause the seed to germinate or the plant seed is dried in a dark place. However, Evans et al teaches that light and darkness have an effect on germination depending on the plant species (Evans). Therefore, it would be obvious to one of ordinary skill in the art through a combination routine laboratory tests and experimentation and knowledge of the seed species, to determine light or dark requirements for a desired effect and to control germination.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Badiu et al teaches that the seeds are soaked in water in a dark place since dark is a relative term that can be defined as low light or no light and has not been clearly defined in applicant's specification. Therefore, the vat/dish taught by Badiu et al that the

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seeds are soaked in is inherently a dark place because it will have a reduced amount of light then what the seeds would receive when exposed to natural sunlight. Furthermore, examiner maintains that the drying step follows the soaking step as discussed in paragraph one of the English translation.

The broad wording of claim 1 merely implies that the soaking is done in a dark place, but does not explicitly state that the drying is done in a dark place until claim 3. However, in paragraph one of the English translation (and English Translation page 6, claim) Badiu et al teaches that the drying can be performed during a pelletizing step in which seeds are introduced into the pelletizing equipment and therefore are inherently being dried in a dark place. Badiu et al teaches a seed treatment method that improves germination performance, but the Smith reference was incorporated to explicitly illustrate that the specific steps of soaking seeds and then drying the seeds increases germination. It is notoriously old and well-known in the art that all kinds of different plant species and morphologies inhibit water to germinate and all will stop germinating when dried. The main reference Badiu et al teaches that seeds inhibit water to improve germination. Smith was included to illustrate that drying after soaking helps with germination even more.

Applicant argued that Badiu et al and Smith do not teach soaking the seeds for the appropriate amount of time for the claimed effect. However, applicant has not included a time frame in any of the claim limitations and is therefore an invalid argument.

The Evans reference teaches the effects of light and dark on seed germination. It inherently teaches the effects on a seed during pretreatment because certain seeds are going to require different light requirements to prevent an early onset of germination. Evans is provided as a teaching that illustrates the effects of light on seeds and conveys old and well-known knowledge in the field, knowledge of accepted wisdom, for one of ordinary skill in the art to control the onset and rate of seed germination.

Regarding arguments pertaining to the rejection over Job et al, the examiner maintains that the soaking step and the drying step are all part of the complete method taught by Job et al and that the drying step does in fact follow the soaking step (Job Col 3 line 45). Job et al does not explicitly state the benefits of the drying step in terms of germination. Consequently, the teachings of Smith were introduced as an example that drying after soaking does have beneficial effects for germination and that this is accepted general knowledge in the field

In conclusion, the examiner has satisfied the burden of establishing a *prima facie* case of obviousness and the examiner maintains that applicant's claim limitations are extremely broad and entail steps that are very old and well-known in the art of seed germination. The effects of light and darkness on seed germination have been studied extensively. Applicant's broad claims do not patentably distinguish applicant's method over the teachings of the prior art nor over the knowledge of one of ordinary skill in the art.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea M. Valenti whose telephone number is 703-305-3010. The examiner can normally be reached on 7:30am-5pm M-F; Alternating Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 703-308-2574. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Andrea M. Valenti  
Patent Examiner  
Art Unit 3643

18 November 2004



Peter M. Poon  
Supervisory Patent Examiner  
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